

AVITRADER

MRO

March 2017 - www.avitrader.com

Managing components

Bridging the skills shortage gap with
augmented reality

MRO News
from around the world

People on the Move
latest appointments



Managing components

The reliability of aircraft parts is crucial.
Photo: Iberia

Components make up a considerable portion of an airline's direct maintenance costs. **Keith Mwanalushi** looks at the latest trends for the management and maintainability of aircraft parts.

The reliability of aircraft parts is important for the safe operation of every flight and airlines are scrambling to sign up to long-term component support agreements with various specialists.

Jetstar Pacific for instance, one of Vietnam's biggest low-cost carriers recently signed such an agreement [its first] with AFI KLM E&M to support its fleet of A320s. The contract covers component support and repairs plus access to a local spares pool located at Ho Chi Minh City.

STS Components Solutions capabilities also vary greatly depending upon the customer, region, or challenge at hand. "With the aviation landscape constantly evolving, we develop both long term and short term strategies which provide our customers multiple options as market conditions change throughout the life of a component programme. Our tailored approach to each request is truly the foundation of what differentiates STS Component Solutions from our competition," declares Tom Covella the Group President at STS.

Boeing 737NG inventory including rotables are seen to be of considerable demand. "Over the years, we have become an industry leader supporting this platform [737NG] and it has been a pillar of our success since our inception," Covella says. He adds that the company is continuously evaluating the aftermarket, component re-

liability and inventory solutions to support its network of customers. "With increased component commonality with the 737Max, we are expecting similar demand over time which will be offset by airline surplus and the tear down market."

David Rushe Director, Sales and Marketing – Europe at The Magellan Aviation Group mentions that the 737NG and A320ceo remain the most attractive assets for tear-down. As of March 2016, just 76 737NG aircraft have been disassembled - just 1.2% of the delivered fleet.

"There are approximately 6,100 aircraft in service at present and trading is widespread which is opening up opportunities for spare parts support



Rushe says Magellan has recently grown its spare parts supply capability



There is sustained growth in the 737NG spare parts market.
Photo: Keith Mwanalushi

amongst secondary market operators," says Rushe. MRO support is equally widespread and well-established operator-affiliated MROs such as Delta TechOps and AFI/KLM E&M are now competing with a plethora of independent third-party MRO providers, often in emerging markets Rushe observes.

Magellan's repair management team now have a wide range of repair shops to choose from on most airframe rotatable components – a sector previously dominated by OEMs. "As the 737NG fleet begins to enter the mature phase, despite an average age of just 7.9 years, operators and MROs are seeking more cost-effective MRO solutions for aircraft and engines."

Thus, Rushe says Magellan sees sustained growth in the 737NG spare parts market. Whilst the number of 737NG teardowns has increased since the first disassembly (post the global financial crisis) aircraft acquisition values have remained consistent over time, he continues. Over the same period, there has been a gradual but manageable decline in some 737NG spare parts values on the market.

"This puts pressure on Magellan and its competitors to find cost effective repair solutions for material removed from teardowns and consignment programmes. With the 737NG fleet size yet to peak, Magellan anticipates further growth in the repair shop and MRO network for rotatable components. A challenge when acquiring aircraft is the unpredictability of demand for heavy components such as landing gear, inlet cowls and thrust reversers as well as large

structural components. Repair costs can be quite high and demand inconsistent due to increased reliability of installed units and extensive OEM support agreements in place," Rushe explains.

The increased popularity of long term spares support through pooling or PBH agreements has led to OEMs and MROs to purchase secondary market aircraft for teardown themselves, illustrating the competitive nature of the 737NG trading market. As is the case with the A320ceo, Rushe sees that asset acquisition activity is very competitive, supported by a plethora of new market entrants on the teardown side and this is keeping pricing at steady levels.

"Looking at the overall picture for the 737NG market, the outlook is positive," Rushe notes. Despite replacement aircraft being on the horizon and indeed in service. The 737-800 remains the most popular variant on



Daniel Watson, Chief Commercial Officer, AJW



The unpredictability of demand for heavy components such as landing gear can be a challenge.
Photo: Keith Mwanalushi

the leasing market with the -900ER growing in popularity. "Spare parts and lease demand for the CFM56-5B/7B engines is similarly buoyant whilst the V2500-A5 engine is seeing continued inflated lease pricing and spares demand."

Daniel Watson, Chief Commercial Officer at AJW Aviation states the drive in 737NG rotatable market value, is down to healthy demand for 'ready-to-go' units on the shelf. Although rarely on-shelf for long. "Irrespective of the relatively large number of aircraft currently being parted out, in comparison to the last two years, the value of core airframe material remains relatively high in the marketplace," Watson adds.

With the development of the CS300 and similarly advanced next generation aircraft, the industry is seeing new opportunities to support the management of these advanced components. "One of the

ways STS is investing in the next generation of aircraft is through the utilisation of our data services team and providing a portfolio of offerings, as part of our component programme," says Tim Russo Director of Customer Solutions and OEM Distribution at STS.

One of the most critical aspects of the evolving landscape is the amount of data available to airlines, MROs and service providers. "Ultimately, having the access to the data is only relevant if you are using it to identify trends in the market and align your business to support the dynamics of your customers. Through our data services team, STS Component Solutions we are analysing the data and providing solutions based on our findings. For STS, we feel that it is imperative that we continually evolve as an organisation as market conditions change," Russo continues.

"As advanced technologies for new generation aircraft and compo-

nents are introduced into the market, we are deploying an expanded set of new IT systems and networking capabilities to support our customers internal process and external supply chains," responds Kirk Baugher Executive VP for Business Development at PENTAGON 2000 Software, Inc.

PENTAGON have allocated their resources to developing dozens of mobile apps to improve process flow and productivity, "and we have introduced expanded functionality to our external system interfaces for services such as ILS and Aeroxchange so that our customers can more efficiently support new generation aircraft and components."

3D printed parts are now flying on certain new aircraft, and seemingly, there is scope for aircraft parts to be repaired using the same method. While 3D printing methods are emerging in the aviation market, Baugher says PENTAGON can support both the manufacturing and repair process with their existing set of software solutions. "Our existing manufacturing and work order solutions support the new 3D Printing methods, so our system is well positioned to provide immediate support as the use of this technology expands," he assures.

Watson says for specific components 3D printing offers an interesting solution, "these are mainly for interiors such as seat arm rests and so on. We have looked at the materials which are currently available and they do not fit the type of components we currently repair."

As technology improves AJW sees this changing but Watson feels it throws up an interesting dilemma for OEM's. "Where currently they can protect, or make PMA alternatives difficult without the use of a

design house, 3D printing or the copying of component designs will simply require the printing software and the material specification. This would make the copying of piece parts almost commonplace. It poses the question; will component OEM's actively look to restrict 3D printings use to protect their market share?" Watson questions.



Baugher indicates that PENTAGON is working on new component and maintenance management capabilities.

"Our existing manufacturing and work order solutions support the new 3D Printing methods, so our system is well positioned to provide immediate support as the use of this technology expands."

Kirk Baugher Executive VP for Business Development at PENTAGON 2000 Software, Inc.

Looking ahead Magellan has recently grown its spare parts supply capability to include the CRJ-700/900, Q400, E-Jet and 777 Classic. As one of the first parts providers to provide spares support to ATR, Dash 8/Q400 and CRJ operators, Magellan has benefited from "first mover advantage" on the market. The latest example of this is the E-Jet, where Magellan is one of a handful of spares providers on the market.

Increased trading of A320ceo/737NG aircraft

over the coming years will lead to further acquisitions by Magellan. Parts demand continues to be very liquid. For widebodies, Magellan's emergence into the 777 spares support market is driven by demand for parts on the mature 777 Classic fleet as well as the commonality it shares with the in-production 777-300ER. Newer production aircraft types such as the 787, A380 and A350 are still some time off in terms of aftermarket activity.



Covella - STS is continuously evaluating component reliability and inventory solutions.

PENTAGON say their development pipeline is fully-loaded with new component and maintenance management capabilities. "A new generation eCommerce portal, expanded Aeroxchange offering support, and new mobile apps are all in the pipeline for delivery in the first half of this year [2017]. Since our customers define our development pipeline, we

can focus on execution while they define the market requirements," says Baugher.

AJW is now focusing on supporting airlines through integrated supply chain solutions using optimised inventory management and part procurement

solutions, which ultimately reduces the high-cost inefficiencies and operating costs.

"AJW's vast pool of historical data provides us with the required information to accurately predict component removals rates and repair costs, providing a real competitive edge for our customers," says Watson. AJW is also exploring the opportunity to work with its customers to use this data to help put the operator fully in control of their component supply and maintenance costs. The company indicates this will be achieved by jointly driving down removal rates, NFF levels, AOG requirements, and optimising component repair work scopes.

Over in Florida, STS continues to evolve with the ever-changing aviation landscape, "we continue to remain focused on providing unparalleled solutions for the most challenging issues facing our industry. From growing our OEM product offerings to supporting Vendor Managed Inventory programmes, we are always focused on driving financial and operational savings to our customers," Russo concludes.